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ARCHIVES OF PEDIATRICS

A MONTHLY DEVOTED TO THE

DISEASES OF INFANTS AND CHILDREN

JOHN FITCH LANDON, M.D., Editor

LEADING ARTICLES IN THIS NUMBER

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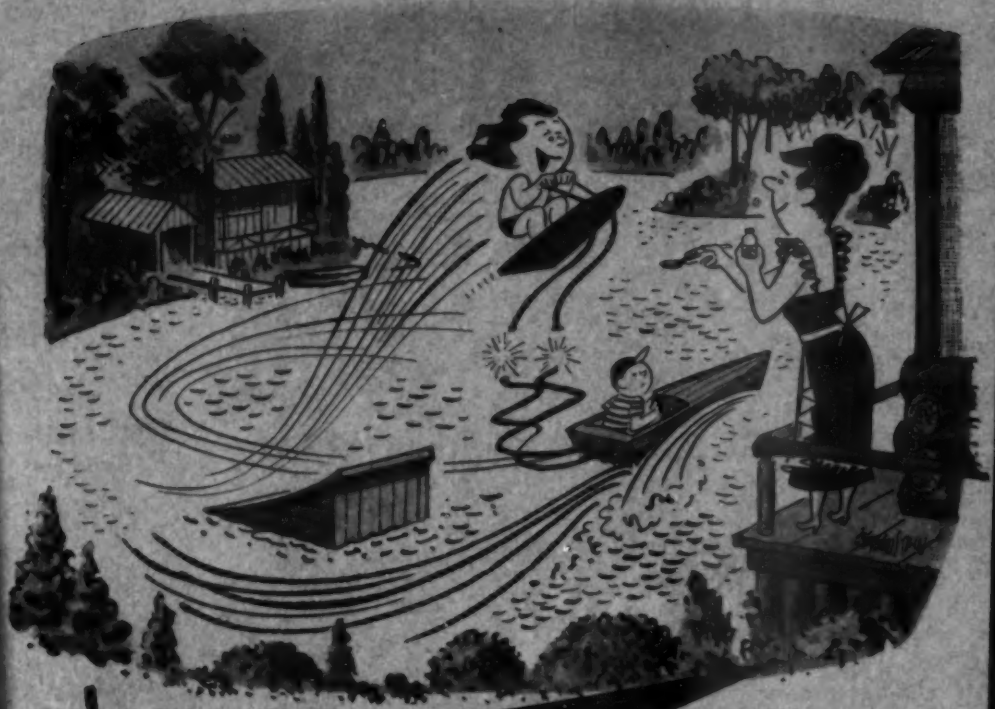

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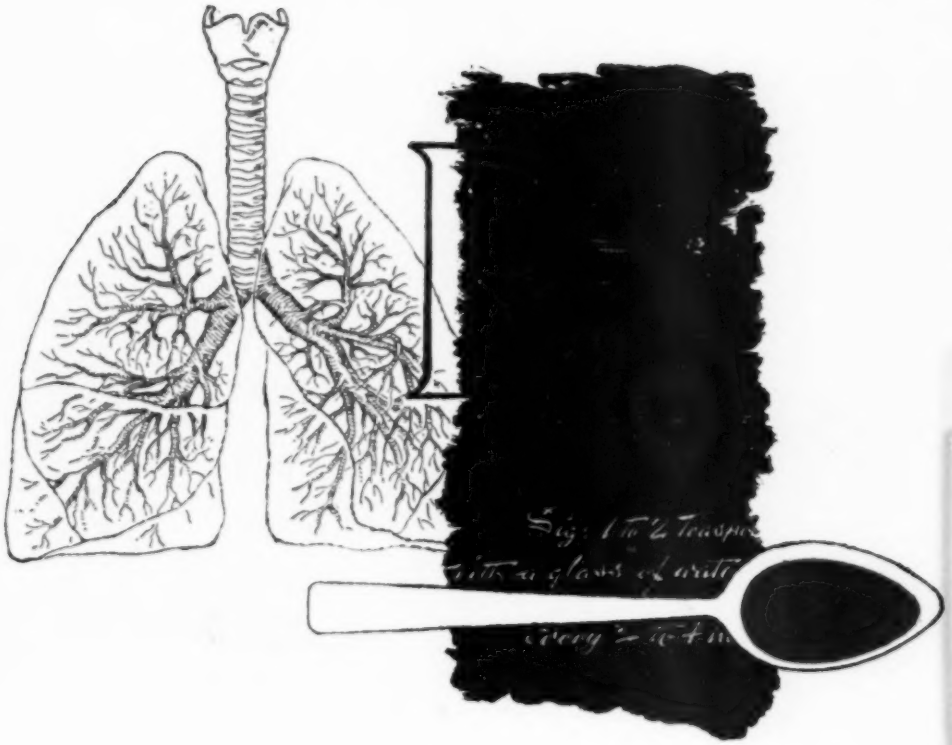

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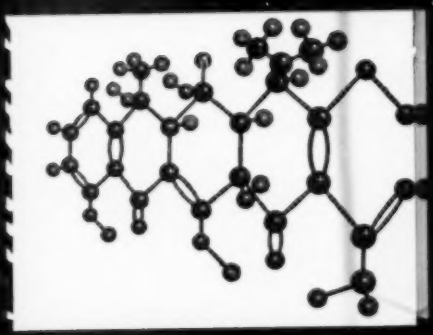

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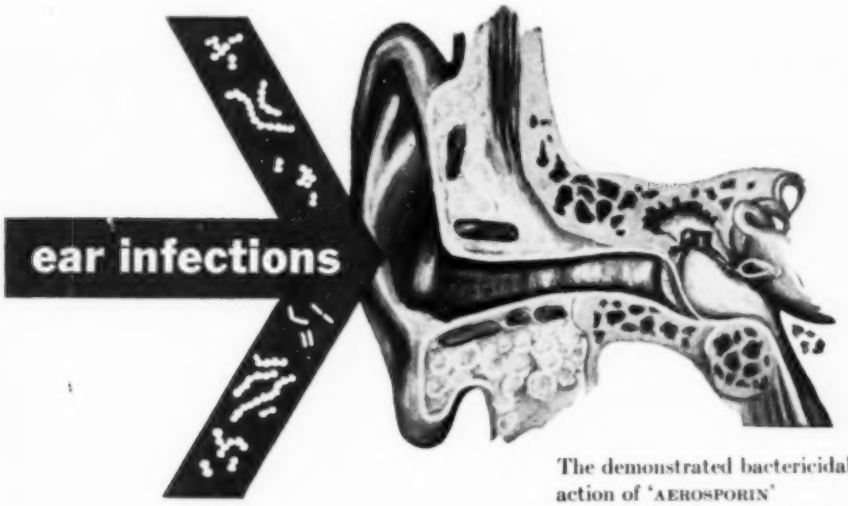

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ARCHIVES OF PEDIATRICS

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JOHN FITCH LANDON, M.D., Editor

FOURTEEN YEARS AFTER RADIUM THERAPY OF AN EXTENSIVE, DESTRUCTIVE ULCERATING ANGIOMA OF THE FACE

IRA I. KAPLAN, M.D., F.A.C.R.
New York

For sometime there has been adverse criticism of the use of radium therapy for the treatment of angiomas. The fear of permanent skin damage and the possibility of cancer developing at the site of treatment have been stressed by critics of this therapy and by those who primarily believe surgery is the better procedure for all abnormal growths.

The case herewith presented indicates that radium therapy, when properly utilized, is not only a life-saving measure but an excellent cosmetic procedure for controlling a destructive lesion and restoring the unsightly appearance of the face of a child.

As a rule the usual type of hemangioma noted at birth is a small lesion, pinpoint red spot or raised strawberry in shape and color, or a bluish red swelling of the cavernous type. Occasionally, however, the angioma noted as soon as the child is born may appear as an ulcerating growth varying in size, shape, depth or external character. Such angiomas are rather repulsive in appearance and, where extensive, may cause abandonment of the child by its disappointed parents.

The treatment of the simple type hemangioma with radium offers very little difficulty and usually, when the radium therapy is properly administered, the cosmetic results are very good. It is in the

Director, Radiation Therapy Department, Bellevue Hospital; Clinical Professor of Radiology, New York University Medical College, New York (Ira I. Kaplan, M.D.).

treatment of the extensive, repulsive, ulcerative, destructive type that the uninitiated despairs of successful results. Unfortunately, radium therapy is not thought of when many practitioners are confronted with the type of extensive angioma as in the case herewith presented.

Now, after 14 years of observation, one can readily realize that radium therapy was not only the treatment of choice but produced the best cosmetic result with no deleterious effect on this child.

CASE REPORT

E. K., baby girl, aged five months, was admitted to the Radiation Therapy Service at Bellevue Hospital on July 14, 1938. Following birth, which was normal without forceps, a large ulcerating bleeding mass was noticed on the right side of the face. The child was a first baby born at term to a woman in her thirties. Neither of the parents had any noticeable birth marks.

Following birth, which took place in a hospital, the child was transferred to another institution for special consideration of the "neoplasm" on the face. At this second hospital a tentative diagnosis of a noma or perhaps an angiosarcoma was made. Biopsy was taken, and, unfortunately, a portion of the right nostril was included in the removed tissue. The pathologic report proved the lesion to be a benign angioma. The parents were then advised that because of the extensive involvement, little could be done for the child, and that it would probably rapidly succumb. The parents refused to accept this verdict and took the child to another hospital where an attempt was made to control the lesion with injections of sclerosing fluid. This procedure produced distress and pain, and the growth appeared to grow larger, and the parents, on the advice of another friend, brought the baby to Bellevue Hospital.

On admission, July 14, 1938, there was nothing abnormal about the child save the dreadful, ulcerating growth on the face. (Fig. 1). At first glance it seemed almost hopeless to consider any form of therapy. The raised irregular ulcer involved the whole nose, extending from the right inner canthus down to and invading the upper lip, extending over to the left side and surrounding the left nostril. The growth was firm, not compressible, granular in appearance and covered in part with a greenish-red slough which bled readily on manipulation. A portion of the growth was missing,

involving the tip of the right nostril. The mouth was clear and the eyes not affected.

Our diagnosis was ulcerative cavernous hemangioma and we decided to use radium as being the most flexible and most readily applicable form of therapy.

It was deemed best to treat the child slowly and with small doses of radium. On July 14, 21, 27 and August 3, 1938, six tubes of 15 mg. each, filtered through 1.5 mm. platinum, were applied to the growth for one hour per session, for a dose of 90 mg. hours each treatment.

On August 12, October 3, 21, and 28, 1938, five tubes of 10 mg. each were applied in one hour sessions for a dose of 50 mg. hours

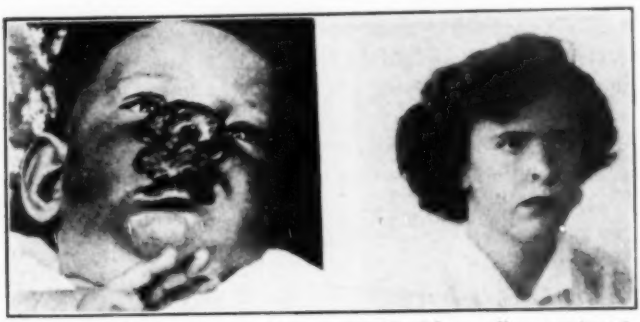

Fig. 1. Before treatment, July 14, 1938. Age 5 months.

Fig. 2. After radium treatment, June 1952. Age 14 years.

each treatment. Although an appreciable change was noted in the lesion, it was not sufficient to warrent cessation of treatment. Accordingly, on November 16 and 30, and December 14, 1938, five tubes of 15 mg. each were applied for one hour per session for a dose of 75 mg. hours per treatment. The lesion kept on diminishing and improving. On February 9, 1939, a radium treatment was given to the residual mass, three tubes of 10 mg. each being applied for one hour for a total of 30 mg. hours. On May 18, 1939, another similar treatment for 30 mg. hours was administered and from then on the lesion grew increasingly smaller. At the age of five, the lesion was completely healed with not too bad a scar. There was, of course, a loss of tissue where the biopsy was taken from the right nostril. The scar was pale and flexible but without distortion.

The girl is now fourteen years old and well developed both physically and mentally, and has just graduated from Junior High School. The facial lesion has remained completely healed. She menstruated regularly and normally, and participates in social life uninhibited. Her teeth have developed normally and the dental department report indicates no adverse condition. The growth of the facial bones is normal and there is no contour maldevelopment. The scar is not conspicuous and the color blends well with the normal skin. Both the girl and her parents are happy with the result (Fig. 2).

CONCLUSIONS

No matter how advanced a hemangioma may be, it is always worth while to attempt treatment.

Radiation therapy offers a readily available and efficient method of treatment. With proper care and in the hands of experienced therapists, excellent results can be achieved. Radium treatment when properly administered is not harmful to the patient. A case is illustrated showing results achieved following radium treatment first administered 14 years ago.

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LATE JUVENILE DIABETES. (Nordisk Medicin, Stockholm, 46:1855, Dec. 12, 1951). Follow-up examination of 31 patients with juvenile diabetes observed for at least 10 years revealed that six were dead. The average age at the onset of diabtes was 12.7, and the average age at death was 27.3. Of the two who died from uremia one had Kimmelstiel-Wilson's syndrome, and in this case intracapillary glomerulosclerosis was confirmed at necropsy. Three died from pulmonary tuberculosis, and one died in diabetic coma. Of the surviving 25 patients, 24, with average age of 27.4 and average duration of diabetes of 15½ years, were examined objectively: in 12 Recht found albuminuria; in 8, edema; in 8, urea clearance of less than 45 cc. per minute; in 6, hypertension; in 16, retinal hemorrhages; in 4, blood cholesterol levels of more than 300 mg. per 100 cc.; and in 6, hemoglobin values of less than 75 per cent. Four patients were free from symptoms. A correlation was established between kidney and eye symptoms. No relation was demonstrable between the incidence of complications and control of the diabetes or type of diet. —*Journal A.M.A.*

ADRENAL NEUROBLASTOMA

Report of Five Cases: New Findings

Edward E. Brown, M.D., F.A.A.P.
Ashland, Ore.

The literature on adrenal neuroblastoma now records about three hundred cases. Five additional cases are reported here, one being given in detail. Two children (Cases 2 and 4) reveal sex changes, probably secondary to stimulation of the adrenal cortex produced by the expanding medullary tumor (neuroblastoma).

Embryology. The embryology of the adrenal gland helps to explain the totally different clinical picture seen when either of its two parts, cortex and medulla, is involved. The cortex is derived from the mesoderm of the wolffian ridge (whence also come the testicles and ovaries) and develops earlier than the medulla. Involvement of the cortex produces alterations in the sex characteristics. The medulla is of ectodermal origin as is the central nervous system. It is more richly supplied with nerve cells than any other organ and is formed by the primordial chromaffin cells which are known as neuroblasts or sympathogones. Most neuroblastomas originate in the abdomen, either in the adrenal medulla or in any of the sympathetic ganglia.

Classification. The classification of adrenal neuroblastoma into two types, Pepper and Hutchinson, is based upon the distribution of the metastases. The clinical description by Pepper[1] in 1901 recorded metastases from the adrenal tumor to the liver. Hutchinson[2] in 1907 described ten cases showing metastases to the skull, affecting the orbit; at autopsy the primary adrenal tumor was on the left in six cases. Frew[3] felt that when the neoplasm begins in the right adrenal, the Pepper type will occur because of the proximity to the liver and its vascular relationship. However, more recent studies indicate little difference in the sites of metastases from right and left adrenal neuroblastomas.[4-13]

Sex. There is no significant sex incidence, both sexes being involved equally.

Age. In Kato and Wachter's review of 232 cases of adrenal neuroblastoma in children, they found that the average age at which the tumor appeared was 2 years for the Pepper type and 4 to 5 years for the Hutchinson type.

Symptoms and Signs. I reviewed 50 cases in the literature[6, 7, 10, 12, 14-19] for symptoms and signs of adrenal neuroblastoma.

In descending order of frequency, *symptoms* noted were abdominal mass, abdominal pain, discoloration of eyelids and/or exophthalmos, fever, vomiting, loss of weight, anorexia, pain in joints and constipation. The most common symptom, abdominal mass, was noted either by the parents or discovered in routine examination by the physician. In some cases the mass could not be palpated for various reasons—pain, muscular rigidity of abdomen, or location of tumor.

The most common *signs* were abdominal mass, pallor, anemia, ocular changes, fever, bone involvement as determined by roentgenogram, and metastatic nodules.

Diagnosis. Pathognomonic of adrenal neuroblastoma in an infant or young child are abdominal tumor and eye changes, such as periorbital ecchymosis, proptosis and orbital edema. In the 50 cases reviewed, abdominal mass was noted as a symptom in 22, and as a sign in clinical examination in 31. Eye symptoms were mentioned as a chief complaint by parents in 11 and found as a sign in 14.

In three of our five patients (Cases 1, 4 and 5), both abdominal mass and eye symptoms were present.

Roentgen findings to be sought are soft tissue density in the upper abdomen (Fig. 2) and chest (Fig. 3), osteoporotic areas in the long bones,[7, 12, 15, 17, 19] and skull,[7, 10, 12, 19] and suture separation in skull.[6, 7, 10, 15]. Occasionally fine, flaky calcified areas may be present in the tumor to give a clue to its presence[9, 10, 16]. Intravenous or retrograde pyelogram, while of greater value for the diagnosis of Wilms' tumor, may sometimes be a clue to adrenal neuroblastoma.[13, 13a] There may be downward or lateral displacement of the kidney[10, 16] or distortion of the upper calyces[9, 16], the latter being found in one of our patients (Case 2). Snyder and his associates[13a] report that kidney, pelvis or ureter is seen distorted or displaced in 90 per cent of Wilms' tumor and in 75 per cent of neuroblastoma.

Biopsy taken from a persistent cervical or other node, or directly from the tumor, may reveal the most characteristic finding of neuroblastoma, the rosette (Fig. 5). Rosettes, however, are found in only 30 to 50 per cent of the reported cases.[15] They consist of small (8 to 12 mu) cells with hyperchromatic nuclei, are

polymorphous, contain little cytoplasm and lie in dense new-formed connective tissue. Delicate, acidophilic fibrils may arise from the cells. The name, rosette, is derived from the clumped (circlet) arrangement of the cells around a central mass of fibrils. Leinfelder[20] states that rosettes or fibrils should be present for a positive diagnosis. In their absence the typical cells only suggest neuroblastoma.

Differential Diagnosis. Among the common conditions which confound the diagnosis of adrenal neuroblastoma are appendicitis, rheumatic fever and lymphosarcoma.[13]

Appendicitis is often considered because of vomiting and abdominal pain, the latter being present in 11 of 50 cases reviewed. Children are sometimes operated for a misdiagnosed appendicitis (Case 2).[7, 9, 21]

Rheumatic fever is considered in diagnosis because of pain in the bones and joints.[3, 9, 10, 21, 22] Among 16 cases tabulated by Askin and Geschickter[14] fever was noted in 11. In their series only 3 complained of pain in joints and bones, but the true incidence is difficult to determine in view of the extreme youth of many patients.

Retroperitoneal lymphosarcoma was the original diagnosis in Case 1. True lymphosarcoma shows widespread superficial lymph node involvement, rapid temporary response to radiation therapy, late ascites, and diagnostic tissue biopsy.[13]

Careful blood studies will rule out leukemia, chloroma and other blood dyscrasias which can produce a progressive proptosis and ecchymosis.

Wilms' tumor is frequently palpable. Hematuria occurs sooner or later; pyelography and diminished dye excretion aid in detection of Wilms' tumor. It occurs after age 2, metastasizes late and rarely to bone. Also occurring later in childhood are Hand-Schüller-Christian disease and Ewing's sarcoma.

Prognosis. Cases of the Hutchinson type with metastases to the skull or long bones (Cases 1, 4, 5) are rapidly fatal. Unfortunately, metastasis occurs in 60 per cent[8] or more at the time of diagnosis. The average duration of life after diagnosis is estimated by Kato and Wachter[11] as only 5 months for patients with metastases of the Hutchinson type, and 3 years 6 months for patients of the Pepper type.

Cures have been known (Case 3). Lehman,[23] in 1917, reported

a case in which a neuroblastoma of the suprarenal medulla was removed in 1916, and the patient was reported well in 1931, 15 years later. Farber[4] in 1940, reporting on 40 neuroblastomas located in the adrenals and elsewhere, noted "permanent cures." He stated that some neuroblastomas undergo spontaneous hemorrhage and necrosis. Some undergo spontaneous maturation, becoming a benign ganglioneuroma.

Treatment. If metastases are not found, the tumor should be surgically removed, if possible, and irradiation given postoperatively. In large primary tumors, the tumor should first be irradiated to make its removal easier. If metastases are present, the area causing the most distress should be irradiated.[23a]

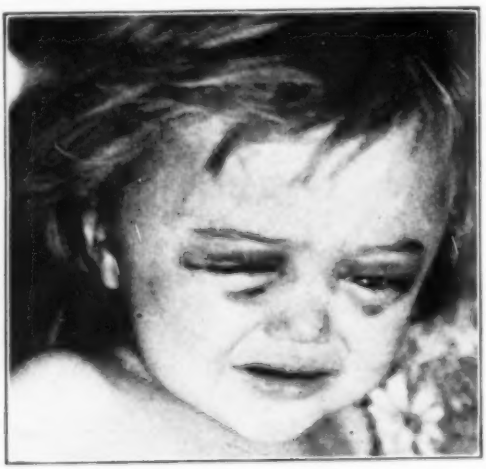

Fig. 1. Child with adrenal neuroblastoma showing periorbital ecchymoses, proptosis, and enlargement of skull. (All figures are of same child, Case 1.)

Wittenborg[8] obtained many three years survivals with surgical excision of the primary tumor and postoperative irradiation. Poore and his associates[9] at the Mayo Clinic state: "Early recognition, prompt radical surgical procedures, and large amounts of radiation given in small divided doses should increase the number of survivors." Campbell, too, feels that the former mortality of nearly 100 per cent has now been somewhat dispelled by "combined radiation therapy and early surgical removal of the tumor."

CASE REPORTS

Case 1. Girl, aged 14 months, was first seen March 17, 1951 by a doctor in another state, whose report follows. *Chief complaint* was severe constipation from early infancy. One week ago mother noticed a swelling in the left neck which distends on crying. *Past history* was negative except for several convulsions.

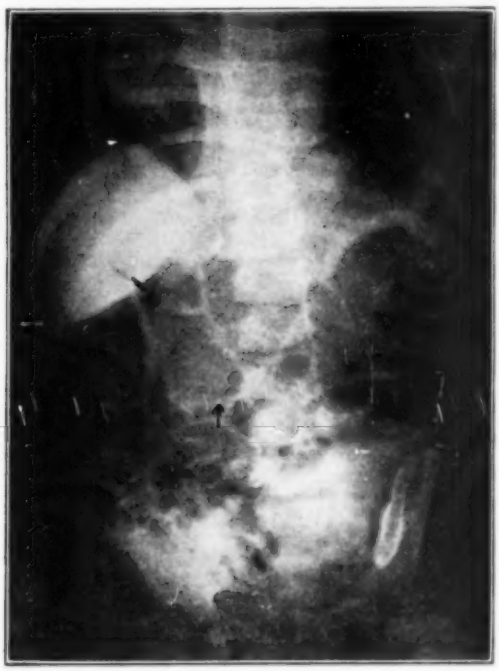

Fig. 2. Roentgenogram of abdomen revealing tumor.

Physical Examination at that time revealed "vermicular mass in the left supraclavicular space which is very marked when child is crying or holding its breath; similar smaller mass in right supraclavicular space. Abdomen is very distended and masses are felt which extend across the abdomen from the right hepatic flexure of the colon to the splenic flexure and down the descending colon to the sigmoid. Palpation causes discomfort." Flat plate of abdomen revealed a mass. A tumor was noted also in lower right

chest (Fig. 2). For that reason a plate of the chest was taken, revealing a large mass which filled the mediastinum above and to the right of the heart (Fig. 3). A diagnosis of retroperitoneal lymphosarcoma was made.

Roentgen Reports. March 20: Long bones—No pathology noted. No evidence of metastases. Chest—There is a lobulated

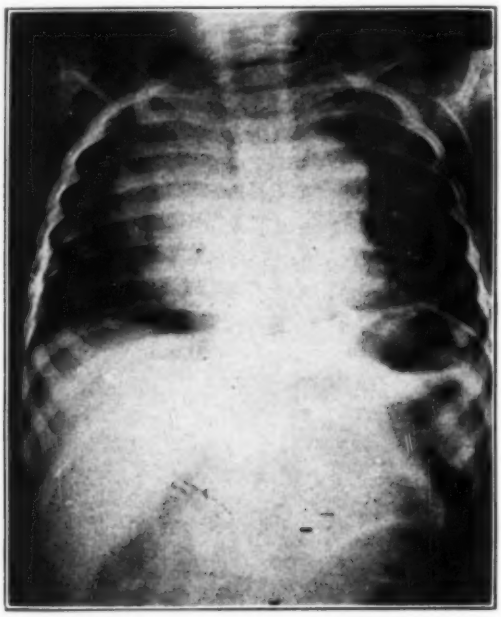

Fig. 3. Roentgenogram of chest showing mediastinal tumor.

large mass in the mediastinum, apparently in the mid-portion, with a total transverse diameter of 10 cm. and involving about 10 cm. in the mediastinum from the superior to the inferior portion (Fig. 3). The aorta is displaced to the left.

March 21: Blood count is normal except for hemoglobin of 49 per cent. Patient is being given a series of x-ray treatments to the mediastinal mass.

April 6: A total of approximately 1000 r tumor has been given in four treatments. Fluoroscopy shows considerable regression of the mediastinal mass. Nodes in neck are much smaller.

May 3: Patient completed x-ray therapy to the abdomen through anterior and posterior ports today with a total of 900 r tumor. No symptoms. There is a slight drop in platelets.

May 18: Fluoroscopically, the mass in the mediastinum has almost completely disappeared. There has been marked regression in the size of the nodes in the abdomen and at present there are only a few small scattered nodes in both cervical areas. Blood count at this time reveals 3,280,000 R.B.C., 58 per cent hemoglobin, 108,000 platelets and 4,100 W.B.C.

I first saw patient July 12, at age 18 months. The child was

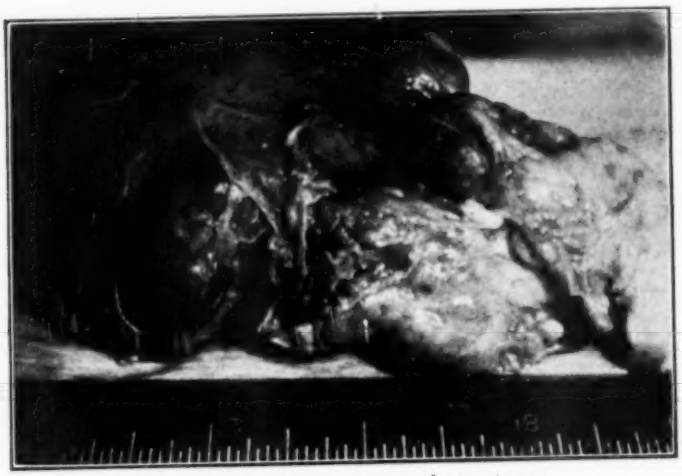

Fig. 4. Adrenal tumor removed at autopsy.

receiving treatment from a "healer." She showed bilateral periorbital ecchymosis and proptosis (Fig. 1) which had been present one month. She had lost weight, having vomited throughout the month. Abdomen was tense but a large nodular mass in upper abdomen could be palpated. There was a bilateral, shotty, cervical adenitis. Having seen similar orbital involvement (Cases 4 and 5), the diagnosis of adrenal neuroblastoma seemed certain.

I saw patient for the second time on the day she died, August 11. She was vomiting bright, non-foamy blood. Petechial hemorrhages in the stomach, found at autopsy, revealed the source of bleeding.

Autopsy. Nodular tumor mass, retroperitoneal, 13 cm. x 7 cm.

x 6 cm. extending across upper abdomen, was dissected from several centimeters of intestine with difficulty. Origin was probably left adrenal, since the bulk of the tumor was on left. However, right adrenal could not be located. Specimen of right kidney and adjacent tissue was sent for section to Dr. E. D. Furrer, who could find only enlarged lymph nodes surrounding the hilar vessels but no adrenal tissue.

Positive findings were the abdominal tumor (Fig. 4), marked enlargement of the liver and petechial hemorrhages in the liver, spleen, stomach mucosa, pericardium and pulmonary pleura. The mediastinum was free of tumor. Skull was not sectioned; it was

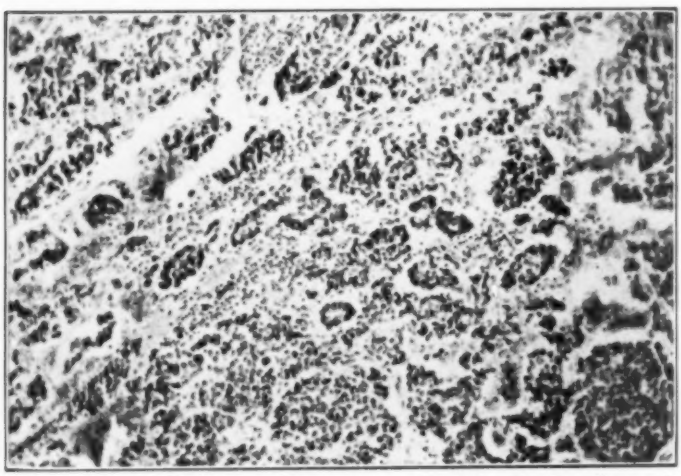

Fig. 5. Histological section of adrenal neuroblastoma showing diagnostic rosettes.

considerably enlarged with apparent metastases; Macewen's sign was absent.

Dr. Furrer reported: Specimen (Fig. 4) weighs 350 grams. On cut section it is a solid graying tumor mass with a hemorrhagic center. In one portion there is a yellowish-white nodule measuring 1.5 cm. in diameter.

Microscopic sections (Fig. 5) reveal the tumor tissue composed of highly malignant cells tending to occur in masses with intermingled rosettes. The tumor cells are hyperchromatic and com-

posed largely of nuclear material. This tumor pattern is typical of the neuroblastoma of adrenal origin.

Comment. Only one previous case was found in the literature in which the presenting complaint was "swelling of the neck;"[17] the thorax in this two and one-half year old girl was negative roentgenographically.

Case 2. I treated a female infant at age 4 months for eczema and thereafter for occasional colds, asthma, asthmatic bronchitis and acute tonsillitis.

Family History was of interest. Mother had occasional attacks of asthma; mother's brother, aged 30, had a malignant hypertension; mother's sister had died at age 4 of "liver abscess" discovered at surgery following an acute episode of pain similar to that of our patient (to be described). This four-year-old aunt of our patient was said to have an increasing abnormal hairiness over the entire body. These findings are discussed later.

Present Illness and *Chief Complaint* date from September 7, 1938, at age 16 months, when child suddenly screamed with acute pain, and occasionally reached for the right loin. The child showed extreme pallor and weakness. I could not properly examine her because of marked abdominal spasm and severe tenderness in right upper quadrant. There appeared to be a fullness in right upper abdomen and loin. Urine showed a trace of albumin, occasional red blood cell, and a few clumps of pus cells. White blood count was 15,000, with 72 per cent polymorphonuclear cells.

The following day, because the child was still crying with pain, and had refused food, two other pediatricians were consulted, the diagnosis being acute appendicitis or intussuception. The child was referred to a surgeon who operated the same day. The appendix was normal but a large fixed tumor was noted in the right upper abdomen. The abdomen was immediately closed and the parents were advised of the presence of an inoperable tumor. At this time her red blood cells numbered 3,120,000; cells showed marked achromia; hemoglobin was 42 per cent; white blood cell count was 14,700, with 61 per cent polymorphonuclears. Her urine showed a trace of albumin, occasional hyaline cast and red blood cell, and many pus cells. She was given one blood transfusion.

On September 20, Dr. Meredith Campbell was consulted. He was successful in performing retrograde pyelography. Films clearly

showed compression of the right upper calyces. Dr. Campbell called my attention to the presence of a moderately enlarged clitoris. He considered two possibilities: Wilms' tumor and adrenal neuroblastoma. Favoring the latter were the compression of calyces from above, and the sexual aberration.

Following a series of irradiations to the tumor, the child was operated October 17. A reddish-gray tumor, 10 cm. in diameter, was removed completely from the upper pole of the right kidney. When the capsule was incised, there exuded about eight ounces of friable necrotic tissue and brain-like creamy material. The patient died the same night. Histologic section of the tumor revealed adrenal neuroblastoma.

Case 3. Male infant, aged 3 months, with uncontrolled diarrhea, was examined by a physician who discovered a right upper quadrant abdominal mass, which was diagnosed following intravenous pyelogram as a neuroblastoma. The infant was given pre-operative radiation therapy at Queens General Hospital and then operated upon April 1939. At operation a large fluctuant mass was noted. Upon removal, the necrotic tumor contained a creamy odorless "abscess" which proved to be sterile.

Histological section of a portion of the tumor revealed "running of the nuclei of the cells; carcinoma cells were not found." Right adrenal neuroblastoma was considered probable because of the location of the tumor and its shrinking and disintegration following x-ray irradiation. The histologic change in the cells (running of the nuclei) might have been due to the irradiation.

On June 16, 1939, after nine treatments with x-ray irradiation, his weight remained stationary (11 pounds 15 ounces) and diarrhea continued. I saw him for the last time one year later (June 1940) when he was gaining in weight and without complaints. He was subsequently followed by Dr. Leonard B. Goldman in the Radiation Therapy Clinic at yearly intervals and was last seen on August 24, 1951. The note made at that time was: "A 12-year case of questionable neuroblastoma. No evidence of postradiation damage. Patient feels well." Dr. Goldman felt that clinically the child had a neuroblastoma.

Case 4. Boy, aged 2 years, was seen at Queens General Hospital, February 1940. He had a striking protrusion of the right eyeball with chemosis and ecchymosis of the periorbital tissue. A week later ecchymosis developed about the left eye. Further findings

were marked pallor and asthenia. He showed a remarkable hypertrichosis of the face and body; there was no abnormal pigmentation. Palpation of the abdomen revealed a large, nodular, nontender tumor of the left upper quadrant. Diagnosis was inoperable left adrenal neuroblastoma.

Case 5. Girl, aged 3, was seen at the New York Post-Graduate Hospital July 1940, with a tumor in the left upper portion of the abdomen. There were metastases to the skull and the periorbital areas were involved with ecchymoses. She exhibited marked pallor and anemia. Diagnosis of an inoperable left adrenal neuroblastoma was made.

DISCUSSION

Three subjects for discussion are raised by data in our patients—hereditary aspect, the finding of "abscesses" or necrotic tumor tissue, and sexual changes.

Although multiple cases of adrenal neuroblastoma in one family have never been reported, the hereditary aspect might be considered from data in Case 2. This girl's four-year-old aunt had hypertrichosis and fatal "liver abscess," which was probably a right adrenal neuroblastoma. Other possible phenomena known to be associated with the adrenals were seen in the family, such as allergy and malignant hypertension. The affected patient and her mother had allergies, which are known to be hereditary and are believed to exist mainly in patients with hypoadrenia.[24] There is considerable support for adrenal participation in essential hypertension,[25, 26] suffered by the patient's uncle.

I should like to call attention to the necrotic nervous tissue, which resembles "abscess," seen at surgery, but which has apparently been unreported. This is noted in Cases 2 and 3, and in the history of the young aunt of Case 2. The "abscesses" are broken down neuroblasts, odorless and sterile. Cutting into such necrotic tumor tissue, the uninitiated surgeon may misdiagnose such a case as "hepatic abscess."

Although sex changes have never been reported, in Case 2 an enlarged clitoris was found. In Case 4, there was generalized hirsutism. The family history of Case 2 revealed in an aunt an "increasing hairiness of the body" before her operation at age 4 for a "liver abscess." It is well-known that stimulation of the adrenal cortex readily induces precocious sexual changes.[6] Hirsutism has

been observed after the administration of cortisone.[27] Is it not possible that a rapidly expanding tumor of the medulla may stimulate the cortex by pressure or invasion?

CONCLUSIONS

1. Five cases of adrenal neuroblastoma are reported, three of the Hutchinson and two of the Pepper type.

2. Diagnosis is frequently delayed. Appendicitis and rheumatic fever are often the first diagnoses. At surgery, a mistaken diagnosis of hepatic abscess may be made for right adrenal neuroblastoma, when creamy necrotic tumor tissue exudes and is thought to be pus.

3. Roentgen findings and biopsy help to confirm the diagnosis; these are discussed. Pathognomonic, but late, signs of adrenal neuroblastoma in a young child are periocular ecchymoses and proptosis of one or both eyes, especially if associated with an upper abdominal tumor.

4. A detailed report is given of one child with unusually prominent mediastinal involvement which almost disappeared after irradiation. The size of the concomitant large adrenal neuroblastoma was not affected by similar treatment.

5. Abnormal sexual characteristics, not previously reported, were noted in two children. A boy presented generalized hirsutism; a girl, a moderately enlarged clitoris. The cause of these sexual aberrations is probably stimulation of the adrenal cortex by the expanding medullary tumor.

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TREATMENT OF TUBERCULOUS MENINGITIS. (Maandschrift voor Kindergeneeskunde, Leyden, 19: 423, Nov. 1951). Of 143 children with tuberculous meningitis who were treated beween May 1947 and January 1951, 21 died within three days of admission. In July 1951, 63, or nearly half of the remaining 122, were living. The authors gained the impression that the intramuscular injection of *p*-aminosalicylic acid must be continued uninterruptedly for at least six months, the daily dose for infants being 500 mg. and for older children up to 1 gm. Treatment with streptomycin should be gradually discontinued after six months. For the intrathecal administration of streptomycin, small doses should be used (25 to 50 mg.), and they should not be given too often. When the protein index of the cerebrospinal fluid rises, frequent punctures are indicated, but without injection of streptomycin. With this treatment 23 of 32 patients over two years old survived. Unfavorable prognostic factors are low age, late diagnosis, and sensory disturbances on admission. —*Journal A.M.A.*

ANORECTAL EXAMINATION OF NEWBORN INFANTS (NEGRO)*

With Reference to the Incidence of Congenital Strictures and Status of Anal Sphincter Tonus

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AND
Roland B. Scott, M. D.
Washington, D. C.

The purpose of this study was to determine the incidence of congenital anal strictures in newly born infants. A high incidence of obstructive lesions has been noted by Liburt[1], who found 22 cases of congenital anal stricture in 61 older infants and children with anorectal conditions. A fibrous ring was palpated by Zahorsky[2] in the rectums of 15 infants among 60 cases with anorectal conditions. Others[3] have reported an incidence of 39 per cent congenital anal strictures in 100 infants of various ages examined at random in a well baby clinic.

The incidence in the above reports seems unusually high when compared to statistics of miscellaneous anorectal anormalies previously recorded of 1 per 8000[4] and 1 to 1649[5] births.

PROCEDURE

Rectal examinations were performed on 500 consecutive normal newborn infants ranging in age from birth to 24 hours old. All subjects were Negroes. Examinations were made at this early age in order to eliminate the possibility of confusing a stenosis or stricture secondary to an anal fissure or ulcer which may closely simulate congenital lesions. One of us (A.D.F.), using the same finger, performed all the examinations. The well lubricated, gloved, fifth finger was slowly inserted into the infant's rectum to the second joint. Although a rectal examination had been done previously by the obstetrician on all infants studied here, we feel that if a significant congenital anorectal stricture were present it would not be completely obliterated by a single rectal examination performed at the time of delivery except possibly in the case of the diaphragmatic type.

Of the 500 normal newborns examined, in no instance was a

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congenital anal stricture found in any of its forms or variations. It was noted during this study, however, that the anal sphincter tonus varied from one infant to another. (We define sphincter tonus as the degree of contraction or resistance to stretch present in the anal sphincter.)

DISCUSSION

Congenital anal stricture is thought to be due to the incomplete absorption of the membrane formed in the 7th to 8th fetal week by the fusion of the lower pouching end of the hindgut and an invagination of the proctodeum.[6] These strictures may be diaphragmatic, annular or sickle-shaped. Possibly an indeterminate number of infants are born with some vestige of a persistent diaphragm, which may be thin enough to be broken up by the infant's first stools. In some cases, however, the congenital obstruction forms the basis of the frequent complaint of difficult, deficient or painful bowel movements,[7] accumulation of gas, ribbon-like stools and straining during defecation. This condition is treated by repeated dilatations, using the finger or calibrated manufactured dilators.

Murphy[8] found the incidence of congenital malformations considerably higher in the white race than in the Negro. However, of the 39 cases of stricture reported by Brown and Schoen[3] in infants, 30 were in Negroes.

The practicing pediatrician and physician are constantly plagued with complaints of grimacing, straining, apparent pain and difficulty with normal pasty stools during early infancy. The physiological or anatomical basis of such complaints may be the variability in sphincter tonus noted in this study or rarely a congenital anal stricture. We observed that in most instances of increased sphincter tone, the general bodily muscular tone also appeared to be increased. Much has been said of the so-called "hypertonic" infant or "colicky baby" who sleeps poorly, cries most of the time, seems alert and strong, with excessive muscular activity.[9, 10] This syndrome may be attributed in part to an immaturity or imbalance of the autonomic nervous system.

According to Conel,[11] the brain of the newborn is immature in respect to its cellular differentiation, myelinization and structure. The behaviorial characteristics and neuromuscular activity

of the newborn, such as coughing, sneezing, defecation, yawning, etc., are dominated by the primitive subcortical nuclei.[12] As the cortex develops, it controls and inhibits to a certain degree the phyletic functions of the subcortical nuclei. The immaturity of the autonomic nervous system of the newborn may account for the variability in the tonus of the anal sphincter noted here. Further investigation into the status of anal sphincter tone in young infants is needed in order to better evaluate symptoms referable to the anorectal region in this age period.

SUMMARY

(1) Rectal examinations on 500 consecutive presumably normal Negro newborns were performed to determine the incidence of anorectal strictures.

(2) In no instance was a congenital anal stricture found in any of its forms or variations.

(3) The infants in this series were singularly free of organic anorectal defects in comparison with a much higher incidence reported by other authors. We have no explanation for this discrepancy except that all of our subjects were Negroes in whom congenital anomalies apparently occur less frequently than in the white race. Moreover, all of our infants were examined during the first 24 hours of life. Other workers who reported a higher incidence of anal stricture in older infants may have been dealing with an added increment of acquired lesions secondary to previously undiagnosed anal fissures or ulcers. The latter lesions which are not particularly uncommon in infants seen in clinics may result in healing with stricture formation.

(4) During this study it was observed that the exploring finger encountered considerable variation in anal sphincter tonus among the 500 infants examined.

(5) Further investigation into the status of anorectal tone in young infants is needed as a basis for the elucidation of symptoms referable to this segment of the alimentary canal at this age period.

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UNEXPECTED DEATH IN INFANTS. (Medical Journal of Australia, Sydney, 1: 925, June 23, 1951). In a former study of deaths in infancy one of the authors strongly favored the view that babies alleged to have suffocated accidentally in bed had probably died from undiscovered natural disease. It was demonstrated that, in the absence of gross pathological findings postmortem, histopathological studies showed that many of these infants had acute infections of various types. The present study describes the post-mortem observations in 43 children who died suddenly, in many of whom death by suffocation in bed was suspected. In addition to macroscopic and microscopic examination, systematic cultural studies were made in 22 of the cases. These included attempts to isolate influenza virus from respiratory tissues. A combination of methods established an "adequate" cause for death of infective nature in 14. In these there could be no question of accidental death from suffocation. There was a group of 20 cases in which histological evidence of respiratory tract infection could be found, but in which the etiological agent was not isolated. Only two cases of proved meningococcic infection were discovered, but seven showed features strongly suggestive of acute meningococcic infection, but with negative cultures; from two of these, influenza virus was isolated. The seasonal incidence of these unexpected deaths suggests that respiratory infection or some related factor is an important causative agent. This fact is borne out by the following facts: 1. There is a well-marked peak of these deaths in the (Australian) winter months, April to July 2. In many of the cases careful inquiry revealed histories of mild respiratory infections for a few days previously, or associated infections in the family. 3. Histological evidence of tracheobronchitis and acute bronchitis is extremely common (29 cases). 4. Otitis media was found in seven cases.—*Journal A.M.A.*

NYSTATIN®—A COCCIDIOIDOCIDAL ANTIBIOTIC*

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Hazen et al.[1] have shown that an antibiotic called fungicidin, Nystatin®, has inhibited coccidioides immitis spherules at 6.25 micrograms per milliliter. Nystatin® is an actinomycete of the genus of streptomyces. Brown et al.[2] grew streptomyces in glucose-tryptone broth and it yielded two antibiotics. The one recovered

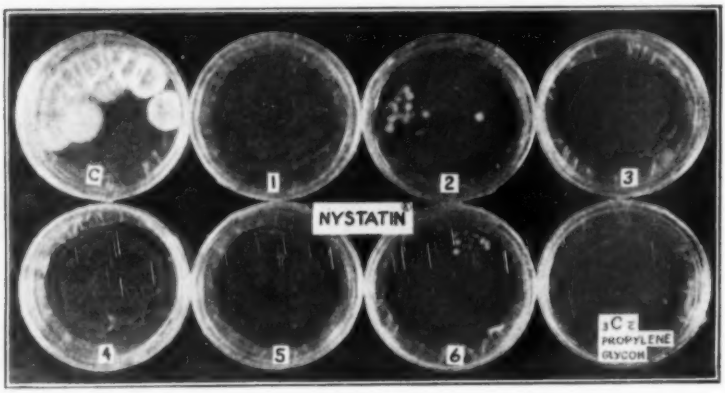

Fig. 1. Petri disk (upper left) shows control with luxurious growth of coccidioides immitis. 1. No growth at 10 micrograms per milliliter. 2. Growth at 5 micrograms per milliliter. 3. No growth at 7.5 micrograms per milliliter. 4. No growth at 50 micrograms per milliliter. 5. No growth at 25 micrograms per milliliter. 6. Growth at 6.25 micrograms per milliliter. C (lower left.) No growth of coccidioides immitis at 70,500 micrograms per milliliter of Sabouraud's with propylene glycol without the drug Nystatin.

from the liquid resembled Whiffen's[3] actidione (streptomycin griesus irradiated), and the surface growth of the glucose-tryptone broth gave fungicidin.

We attempted to corroborate Hazen's work on the specific

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Nystatin® was furnished through the courtesy of Dr. L. B. Hobson of E. R. Squibb & Sons, New York.

fungus of coccidioides immitis with the antibiotic fungicidin before giving it an in vivo study. She stated that fungicidin is relatively insoluble in water and gave an unstable aqueous solution. It had to be dissolved in N/50 HCl and brought up to a pH of 7.2 with 0.1% Na_2CO_3. A solvent that did not need adjustments of the acid base media was sought. Propylene glycol[5, 6] seemed to satisfy this requirement. It was antifungal, and also could be taken orally and intravenously with relatively no toxic effects. Fungicidin went into solution of propylene glycol in our concentration of 10 milligrams per milliliter. The method of Reilly et al.[4] was used to test the antifungal concentrations. One set of Petri plates were with Sabouraud's media and fungicidin, and another set were with Sabouraud's and propylene glycol, as the latter was known to have some antifungal powers but never tried with coccidioides.

All plates were inoculated with the spherules taken from fresh abscess of a disseminated case of coccidioides and sealed with scotch tape and placed at room temperature. The plates were studied daily though visible cultures were seen at 72 hours; the final readings were taken at the end of seven days.

Control..plain Sabouraud's .....many colonies
Sabouraud's plus Nystatin .....7.5 micrograms per milliliter—complete inhibition — no growths
Sabouraud's plus propylene glycol..70,500 micrograms per milliliter—complete inhibition

This in vitro study for practical purposes substantiated the work of Hazen but using a different solvent which in itself is fungicidal for coccidioides but at such a heavy concentration that it may be ignored. Future in vivo studies may prove that propylene glycol may be synergistic. Propylene glycol can be given both orally and intravenously.

CONCLUSION

We have corroborated the work of Hazen's in vitro study of an antibiotic fungicidin having antifungal power against coccidioides immitis but used propylene glycol as our solvent. The latter has some fungicidal properties against coccidioides but at too high a concentration to be used per se; however, it may prove itself to have synergistic action.

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CHOLECYSTITIS AND CHOLELITHIASIS IN CHILDHOOD. (Ann. Chirurgiae et Gynaecologiae Fenniae, Helsinski, 40: 135, 1951). In school children the symptoms of cholecystitis and gallstones are fairly similar to those in adults, but in infants the diagnosis of cholecystitis is difficult since the symptoms are lack of appetite, vomiting, and diarrhea with or without fever. Most observers agree that the prognosis for acute cholecystitis in childhood is poor unless the patient is subjected to early operation. Cholescystitis following typhoid fever seems to be particularly malignant if mixed infection occurs. Wilenius presents five case reports. In case 1 the etiology was not clear, but typhoid gastroenteritis was suspected, and perforation and diffuse peritonitis occurred. The diagnosis was made post mortem. In case 2 acute cholecystitis may have been caused by measles. A swelling was palpable between the umbilicus and right costal margin that proved at operation to be an inflamed gallbladder. Cholecystostomy was performed, and the patient recovered, but later repeated attacks of pain occurred. In case 3 acute typhoid cholecystitis was suspected; cholecystectomy was performed and the patient recovered. In case 4 acute pneumococcic cholecystitis was cured by cholecystetomy. The symptoms of gangrenous cholecystitis in case 5 resembled those of appendicitis; cholecystectomy was successful. In none of these patients were gallstones found. The author also studied autopsy records of 2,049 persons less than 19 years of age. Concrements in the gallbladder were found in 0.33% of the cases. The gallstones were evidently asymptomatic in all these cases.—*Journal A.M.A.*

DEPARTMENT OF ABSTRACTS

Fox, M. J.; Kuzma, J. F. and Junkerman, C. L.: Bulbar Poliomyelitis. (New England Journal of Medicine, 247:276, Aug. 21, 1952).

Review of 1,863 cases of poliomyelitis observed from 1940 through 1951 revealed that 415 (22.2 per cent) were of the bulbar type. All the deaths, except one, occurred in the bulbar cases. The division of the bulbar cases into the following subgroups is of clinical value in determining prognosis and appropriate therapy: bulbar-encephalitic, diffuse and focal; bulbar-central, autonomic, respiratory and circulatory; bulbar-cranial-nerve nuclei, upper and lower; and bulbar-spinal. The largest single bulbar subdivision was the bulbar-spinal group, containing 163 patients. The highest mortality occurred in the bulbar-autonomic-center group. Although only 15 per cent of the bulbar cases were in this category, they accounted for 44.3 per cent of the deaths in the entire series. The lower-cranial-nerve-nuclei group was second in mortality incidence. It represented 30 per cent of the bulbar cases, with a mortality of 20 per cent. Diffuse bulbar encephalitis was present in 33 patients, 21 per cent of whom died. A correlation of the findings of 66 post-mortem examinations made during the course of this study is presented.

Authors' Summary.

Kendall, N. and Woloshin, H.: Cephalhematoma Associated with Fracture of the Skull. (Journal of Pediatrics, 41:125, Aug. 1952).

In a series of 2,774 newborn infants observed over a period of 15 months, 69 had a cephalhematoma. Of the 64 infants who were examined roentgenographically, 16 (25 per cent) had a fracture of the parietal bone underlying the cephalhematoma. In only one instance were symptoms other than the tumefaction observed; these were the result of an associated intracranial hemorrhage. This infant with a cephalhematoma sufficiently large to produce an anemia, required transfusions of blood. The incidence of cephalhematomas would seem to be greater over the right parietal bone than over the left one and more common in male than female infants. Statistical analysis of the data revealed that cephalhematomas, with

or without a fracture of the skull, occurred more often in infants born of primiparous women, with the incidence being higher in infants delivered with forceps than in those delivered spontaneously.

AUTHORS' SUMMARY.

ARAJARVI, T. AND ZILLIACUS, H.: INTRAVASCULAR RED CELL AGGREGATION IN NEWBORN INFANTS WITH INFECTIONS. (Acta Paediatrica, 41:260, May 1952). Intravascular Red Cell Aggregation in Erythroblastosis Foetalis. (Ibid., 41:267, May 1952).

The blood stream can be directly observed in the conjunctival blood vessels with the aid of a stereomicroscope. When this was done in a large number of newborns it was noted that the blood stream in the small vessels and capillaries of the conjunctiva was even and ungranulated in the healthy infants. However, as soon as the slightest prodromal signs of infection appeared, the circulating red cells began to form into clumps. Since the sedimentation rate of R.B.C.'s depends upon this aggregation phenomenon then this can be considered a sedimentation reaction observed "in vivo". In examining 12 cases of erythroblastosis foetalis immediately after birth, aggregation of intravascular red cells was observed in all the immunized infants. There was a definite correlation between the degree of aggregation and the red cell and hemoglobin values. The greater the degree of aggregation the lower the hemoglobin value.

MICHAEL A. BRESCIA, M.D.

SNYDER, W. H.; CHAFFIN, L. AND OETTINGER, L.: CHOLELITHIASIS AND PERFORATION OF THE GALLBLADDER IN AN INFANT WITH RECOVERY. (Journal American Medical Association, 149:1645, Aug. 30, 1952.)

Cholecystitis with cholelithiasis is an unusual finding in infancy. The authors report a case of a 6-week-old female infant who was admitted to the hospital with a diagnosis of intestinal obstruction. At 2 weeks of age the child became constipated and had scant stools which were white, yellow, green and slimy. Eventually bowel movements were obtained only by enemas. At 5 weeks of age the abdomen began getting larger. The appetite had been fair and vomiting began the week prior to admission. The child, although well developed, appeared chronically ill with a markedly distended abdomen. There was suggestion of shifting dullness. A tentative

diagnosis of abdominal malignancy with ascites was made. X-rays of abdomen revealed dilated small bowel and evidence of intraperitoneal fluid. A paracentesis yielded 400 cc. of yellow-brown, slightly cloudy fluid. A choledochus cyst was also considered. A second paracentesis yielded 500 cc. of cloudy green fluid. Exploration of the abdomen revealed several hundred cubic centimeters of free bile-stained fluid between the coils of intestine. In the right upper quadrant was a perforated bile abscess cavity. At the base of the abscess was a perforation of the gallbladder at its junction with the cyctic duct. The gallbladder contained one small stone, and there were numerous stones in the common duct. The stones were removed from the common duct by syringing. The infant did well and three months later remains perfectly well.

MICHAEL A. BRESCIA, M.D.

GROSS, R. E. AND CRESSON, S. L.: EXSTROPHY OF BLADDER. OBSERVATIONS FROM EIGHTY CASES. (Journal American Medical Association, 149:1640, Aug. 30, 1952).

A report is made of 80 children born with exstrophy of the bladder, of whom 54 have been treated surgically. Some of the preoperative and postoperative problems and their treatment are presented. In the 50 patients treated by ureterosigmoidostomy, there have been no deaths. It was necessary to remove a kidney from two of these patients. It is urged that particular attention be given to providing the best cosmetic repair of the genitalia after the exstrophied urinary bladder has been removed. While there are many distressing features in treating this bladder and genital anomaly by employing the rectosigmoid as a urinary reservior, the fact remains that the vast majority of the subjects can be given a comfortable existence and can assume a reasonably normal place in society. AUTHORS' SUMMARY.

EATHER, K. F.: THE COMMON HAZARDS OF GENERAL ANESTHESIA FOR TONSILLECTOMY AND ADENOIDECTOMY. (Northwest Medicine, 51:671, Aug. 1952).

There are too many deaths associated with tonsillectomy and adenoidectomy. Most of these are attributable to anoxia, overdosage or hemorrhage. Most are preventable anesthetic problems. The complications, death, pulmonary disease and brain damage

would be materially decreased by the more widespread and intelligent use of the endotracheal technique by the physician. In many of the smaller communities this would mean training one of the local doctors in the use of the laryngoscope and the endotracheal tube. Responsibility for making this training available must fall to the anesthesiologists or otolaryngologists in a given area. The psychological damage of operations upon the young child may be considerable. The surgical team is frequently uninformed or negligent of this important aspect of good medical care. More thought should be devoted to this subject, especially by the anesthetist and by the nurses who prepare the child just previous to surgery.

AUTHOR'S SUMMARY.

JACKSON, K.; WINKLEY, R.; FAUST, O. A. AND CERMAK, E. G.: PROBLEM OF EMOTIONAL TRAUMA IN HOSPITAL TREATMENT OF CHILDREN. (Journal American Medical Association, 149:1536, Aug. 23, 1952).

During two years' work on a special study of the psychological aspects of hospitalization, anesthesia, and surgery for children, it was observed that a child is least likely to suffer from emotional trauma if he is well adjusted to a family environment of love, trust and security. Certain factual preparation is necessary before hospitalization, in order to prepare him for the experience. The time of hospitalization should be chosen according to his emotional balance. All phases of the experience should be gauged to the child's ability to adjust, and all procedures to which he is subjected should be carried out in a considerate and friendly manner. Painful treatments should be kept to the necessary minimum. In all children, but especially in those who are inadequately equipped for hospital experience, physicians and hospital personnel can, by kindness, understanding and support, greatly reduce traumatic effects. Of 105 children studied, 17 showed behavior changes at the end of the third postoperative month. AUTHORS' SUMMARY.

YUDKIN, J.: EFFECT OF LIVER SUPPLEMENT ON GROWTH OF CHILDREN. (British Medical Journal, 4773:1388, June 28, 1952).

Experiments with rats showed that growth was significantly improved when a powdered preparation of liver was added to a supposedly complete stock diet. A similar preparation was given to

apparently normal children of 2 years of age, at the average rate of 1.2 g. per day. After 13 weeks the 32 children taking this supplement gained on average about ¼ inch more in height and 10 ounces more in weight than the 28 control children. These gains were roughly 20 per cent and 40 per cent more than those of the control children. Reasons are given for the belief that the dietary factor responsible for this improved growth was not vitamin B_{12}.

AUTHOR'S SUMMARY.

ARONSON, J. D. and ARONSON, C. F.: ASSESSMENT OF THE PROTECTIVE VALUE OF BCG VACCINE. (Presse Médicale, 60:1074, July 26, 1952).

The value of BCG vaccine in the control of tuberculosis has been assessed in two groups of Indians of the U. S. and Alaska. Children of school age and pre-school age, all of them negative to tuberculin test, were divided into two groups who were similar as regards number, age and sex. Those from the former group received only one intradermic injection of BCG vaccine and were never vaccinated again in their school course. Those from the latter group received an injection or normal saline and served as controls. During the 13 to 15 year period of the school course there were among the vaccinated 71 cases of death, and among the controls 128 cases of death from any cause. Of the 1,551 vaccinated subjects, 12 died of tuberculosis, which gives a proportion of 0.56 per 1,000 persons in one year observation. Of the 1,457 controls, 65 died of tuberculosis, which means 3.32 per 1,000 year-persons. Among the vaccinated and controls, respectively, there were 59 and 63 deaths due to non-tuberculous causes, which gives respectively a rate of 2.77 and 3.22 per 1,000 year-persons observed.

AUTHORS' SUMMARY.

MUELLER, H. L. AND FLAKE, C. G.: IRRADIATION OF THE NASOPHARYNX IN CHILDREN WITH INFECTIOUS ASTHMA. (New England Journal of Medicine, 246:924, June 12, 1952).

Forty-one children with asthma of over 2 years' duration associated with respiratory infection were treated by x-ray or radium irradiation of the nasopharynx. Sixty-three per cent were males and 37 per cent were females. These children were

strongly allergic, as evidenced by a family history of allergy in 73 per cent and by other allergic manifestations, on the basis of skin test and symptoms, in 92 per cent. Improvement for observed periods from 6 months to 4 years was noted in 80 per cent of those treated, with no particular tendency to recurrence. Good results are chiefly dependent on reduction in frequency and severity of respiratory infections. No explanation was found for the failures of treatment. AUTHORS' SUMMARY.

McCRORY, W. W. AND NASH, F. W.: HYPERTENSION IN CHILDREN—A REVIEW. (American Journal of the Medical Sciences, 223:671, June 1952).

Hypertension in children is usually found in association with renal disease, the most common of which is acute glomerulonephritis. Apart from acute nephritis, an elevated blood pressure occurs in a variety of chronic renal diseases, such as chronic glomerulonephritis, chronic bilateral pyelonephritis, polycystic kidneys, symmetrical cortical necrosis, the renal anoxic syndrome, thrombosis of the main renal vessels and obstructive lesions of the urogenital tract. Unilateral renal disease, the most common cause of which is pyelonephritis, can also cause hypertension and includes renal hypoplasia, abnormalities of the renal artery, renal tumors (including Wilm's tumor), calculi, hydronephrosis and hydroureter. Disturbances of the endocrines can also result in elevated blood pressure, such as hyperthyroidism, disturbances of adrenal cortical function, pleochromocytoma and ovarian agenesis. Diseases of the nervous system can also elevate the blood pressure, such as cerebral hemorrhage, infections of the central nervous system, following cerebral trauma and neurosurgical procedures. It is noteworthy that it has been reported in some series that over 50 per cent of patients with acute poliomyelitis show an elevated blood pressure. It is most commonly associated with bulbar disease and respiratory difficulty. Disorders of the heart and great vessels, such as patent ductus arteriosus, aortic insufficiency and arteriovenous shunts, may be accompanied by hypertension. Coarctation of the aorta is probably the commonest cause of hypertension in childhood other than renal disease. Other causes of hypertension include acrodynia, lead poisoning, sickle cell anemia and obesity in children. MICHAEL A. BRESCIA, M. D.

BOOK REVIEWS

ADVANCES IN PEDIATRICS. Vol. V. Edited by S. Z. Levine, M.D. Cloth. Illustrated, Pp. 273. Price $7.00. Chicago: The Year Book Publishers, Inc., 1952.

This fifth volume of the Advances in Pediatrics contains six well presented papers of immediate interest. They are: 1—Advances in the Treatment of Bacterial Meningitis. By H. E. Alexander. She emphasizes the importance of large doses of antibiotics in the treatment of the suppurative meningidites and also gives the rationale for intrathecal medication, in the first 12 hours of the suppurative meningitis and continuing intrathecal therapy in tuberculous meningitis. 2—The Nephrotic Syndrome in Children. By H. L. Barnett, C. W. Forman, and H. D. Lauson. This is an excellent review of the subject. 3—The Relation of Vitamin K Deficiency to Hemorrhagic Disease of the Newborn. By H. Dam, H. Dyggve, H. Larsen and P. Plum. The one important object of a paper on vitamin K is to obtain the opinion of the authors relating to the value of antenatal administration of vitamin K. But on this very point the authors are contradictory. 4—Angiocardiographic Studies in Children. By J. Lind and C. Wegelius. 5—Iron Metabolism in Infants and Children: Serum Iron and Iron-Binding Protein—Diagnostic and Therapeutic Implications. By C. H. Smith, I. Schulman and J. E. Morgenthau. 6—BCG Vaccination. By A. J. Wallgren. This is a most lucid review and presentation of the subject.

MICHAEL A. BRESCIA, M.D.

DYNAMIC PSYCHIATRY. TRANSVESTISM—DESIRE FOR CRIPPLED WOMEN. By Louis S. London, M.D. Cloth. Pp. 127. Illustrated. Price $2.50. New York: Corinthian Publications, Inc. 1952.

This is a short text on the above subject with a brief historical background of transvestism. A case history is given in detail and the remainder of the text is devoted to sketches presented by such a case and the pathological interest in crippled, deformed women, dwarfs, freaks, etc., are presented. H. FRUCHTER, M.D.

CONGENITAL DYSPLASIA OF THE HIP JOINT AND SEQUELAE. By Vernon L. Hart, M. D., F.A.C.S. Cloth. Illustrated. Pp. 187. Price $5.00. Springfield, Ill.: Charles C. Thomas, 1952.

This small but well illustrated monograph on congenital dislocation of the hip should be a must on everyone's reading list. It is easily read and most lucid. The primary purpose of the book, as noted by the author in his introduction, is that congenital displacement of the hip joint can be recognized and should be treated during the first six months of life or before the function of weight bearing which begins with creeping. The author then sets forth in brief but systematic order to present the pathogenesis, clinical and roentgenological findings and treatment of this disorder. The disorder stems from a faulty process of endochondral ossification which results in a dysplastic and inadequate acetabulum. The clinical findings are well presented and proper emphasis is placed on Ortolani's sign which can be easily elicited. The roentgen illustrations are adequate and clear. The most important part of the treatment is an early start. The earlier the better. With the advance of each month or day of infancy after weight bearing begins the chance of securing a normal hip is proportionately decreased. Hence, it is incumbent upon the physician in charge of these infants to diagnose the condition as soon as possible and to immediately institute treatment. MICHAEL A. BRESCIA, M. D.

THE CLINICAL USE OF FLUID AND ELECTROLYTE. By John H. Bland, M.D. Paper. Pp. 259. Illustrated. Price $6.50. Philadelphia: W. B. Saunders Company, 1952.

This is an excellent text on the basic changes that occur in health and disease. The author is extremely detailed in making each category complete. The chapters on the aged and aging patient and surgical and renal diseases are of importance to all men dealing with these daily problems of patients in all hospital wards. The physiological and clinical pictures are well interwoven and clearly written. This is a text of great value. Our criticism, if any, of this text is about the style of type used which makes reading quite difficult and tedious. H. FRUCHTER, M.D.

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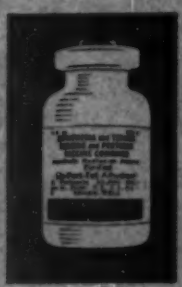

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